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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,384	06/24/2003	Richard J. Mehus	1092-015US01 (1653US01)	9839
28863 7590 11/15/2007 SHUMAKER & SIEFFERT, P. A. 1625 RADIO DRIVE SUITE 300 WOODBURY, MN 55125			EXAMINER SINES, BRIAN J	
			ART UNIT 1797	PAPER NUMBER
			NOTIFICATION DATE 11/15/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ssiplaw.com

Office Action Summary	Application No. 10/602,384	Applicant(s) MEHUS ET AL.	
	Examiner Brian J. Sines	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 18-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group I comprising claims 1 – 7 and 18 – 25 in the reply filed on 9/4/2007 is acknowledged. The traversal is on the ground(s) that the inventions are not independent and distinct, and there would be no serious burden on the examiner. This is not found persuasive because, as indicated in the previous restriction requirement, the two inventions are indeed independent and distinct and have been classified accordingly. The apparatus of invention I can use a different algorithm for determining a concentration measurement. Furthermore, the primary classification of claimed subject matter is merely one indication of the burdensome nature of the search requirements and a serious burden on the examiner may also be shown by appropriate explanation of the field of search (see MPEP § 803). The restriction requirement merely refers to the primary classification for the inventions, not the complete scope of the prior art search in additional art class and subclass classifications that would be required in determining patentability. The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 14 – 17 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

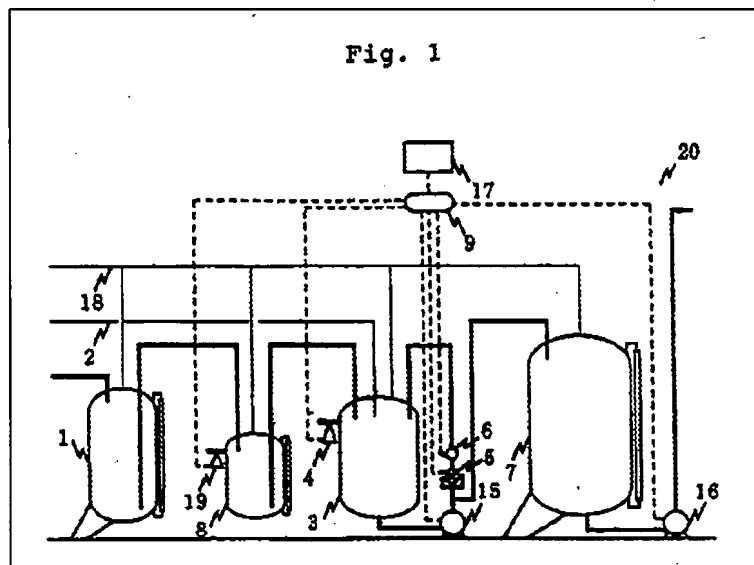
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 – 7 and 18 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. (U.S. Pat. No. 6,706,533) (“Nomura”).

Regarding claims 1, 5 and 18 – 25, Nomura teaches a concentration detection apparatus for determining the concentration of a user selectable product solution comprising: a conductivity probe 5; a temperature sensor 6; and a controller 9 that uses a predetermined algorithm or equation for calculating a concentration (see, e.g., col. 9, line 19 – col. 12, line 56; figure 1). The concentration value is calculated using a linear equation that is a function of temperature and conductivity based on previous empirical measurements on known standard solution concentrations (see, e.g., col. 7, lines 25 – 61; col. 13, line 16 – col. 15, line 45).



Nomura does not specifically teach the use of a resistance probe in place of the conductivity probe with the disclosed measurement device. The applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. “The combination of familiar elements is likely to be obvious when it does no more than yield predictable results.” See *KSR Int’l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007). In this regard, the use of resistance probes in performing chemical measurements is very well known in the art (see MPEP 2144.03). Resistivity is merely the inverse of conductivity. The use of a resistance probe would

have been predictable in facilitating a chemical concentration measurement with the disclosed measurement device. Therefore, it would have been obvious to a person of ordinary skill in the art to use a resistance probe with the disclosed measurement device in facilitating a concentration measurement.

Regarding claims 2 and 3, the controller 9 can store information previously inputted for facilitating concentration value determination depending on what solutions are being used (see, e.g., col. 9, lines 20 – 49).

Regarding claim 4, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a user interface, such as with a computer display monitor, to report the calculated concentration to a user.

Regarding claim 7, Nomura teaches that the disclosed apparatus can be used to prepare chemical solutions with a predetermined concentration (see, e.g., col. 1, lines 5 – 12). Therefore, it would have been obvious to a person of ordinary skill in the art to further control the addition of a product solution to the use solution when the concentration falls below a predetermined concentration level.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional cited prior art teach pertinent concentration measurement devices and associated measurement methods.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

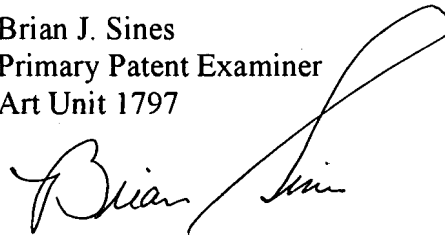
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian J. Sines
Primary Patent Examiner
Art Unit 1797

A handwritten signature in black ink, appearing to read "Brian Sines", with a large, sweeping loop at the end of the signature.